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PHOTOGRAPHIC INTERPRETATION REPORT



RESEARCH AND DEVELOPMENT  
RADAR FACILITY 2  
SARY-SHAGAN ANTIMISSILE TEST CENTER  
USSR

DECEMBER 1967  
COPY 116  
24 PAGES

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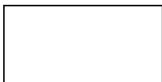
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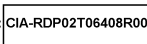
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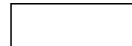


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PHOTOGRAPHIC INTERPRETATION REPORT

# RESEARCH AND DEVELOPMENT RADAR FACILITY 2 SARY-SHAGAN ANTIMISSILE TEST CENTER, USSR

DECEMBER 1967

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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## PREFACE

This report is in response to DIA Requirement 27-8 (ST) (NPIC Project 11552/68) requesting configuration details of 2 new antennas under construction in 1966 and 1967 at Sary-Shagan R&D Radar Facility 2. It will serve as an interim report until such time as the antennas are completed. At that time a more comprehensive report, with rectified line drawings and a more complete chronological account of all facilities, will be produced in response to CIA Requirement C-RR5-82,832 (NPIC Project 11023AK/66).

This report also constitutes an updating of NPIC/R-294/63, 1/ which was based on photography of the HEN ROOST antennas from [redacted] coverage of [redacted] through [redacted] photography of [redacted]. Since that time numerous small-scale photographic missions have covered the site -- generally of only fair interpretability. Since [redacted] it has been covered by large-scale photography 4 times.

Perspectives and line drawings in the report will be limited to the antennas and to the adjacent operational areas. For comparative purposes tables are included which summarize pertinent facts concerning the 2 new antennas at R&D Radar Facility 2, and the R&D HEN HOUSE at Sary-Shagan Antimissile Test Center (SSATC), deployed dual HEN HOUSEs, and the DOG HOUSE at Naro-Fominsk.

Mensuration presented in this report from [redacted] was accomplished with estimated accuracy as follows: horizontal dimensions  $\pm 5$  feet or  $\pm 5$  percent whichever is greater; vertical dimensions [redacted] whichever is greater unless otherwise indicated; boresight elevation angles of the new antennas  $\pm 5$  degrees; azimuths of the new antennas [redacted] azimuths of antennas in the Probable Electronics Area [redacted]

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## SUMMARY

The R&D Radar Facility 2, SSATC (Figures 1 and 2), currently consists of 2 antennas under construction, a newly identified probable\* electronics area, a housing and support area, and a recently constructed support area. This facility, which was first observed on partial coverage through the clouds in [ ] and in its entirety for the first time on [ ] did not appear on available small-scale coverage to change significantly in operational or support areas from that time until mid-1965. From mid-1965 until the latest large-scale coverage of [ ] an extensive construction effort has been noted at the site.

The 2 antennas observed at HEN ROOST Antennas North and South were completely dismantled by [ ] and on the site are being constructed 2 new antennas. By [ ] an A-frame structure for the new antenna could be seen under construction at HEN ROOST Antenna South. By [ ] the paneling was almost completely installed. Boresight azimuth of this screen, which is shorter and higher than the original screen, is approximately [ ] Erection of the A-frame antenna structure was first observed at HEN ROOST Antenna North in [ ] Although the antenna face has not yet been emplaced -- and dimensions are therefore not obtainable -- the A-frame structure is higher and somewhat shorter than the original screen. To date, supporting facilities in the

operational areas at both sites remain essentially unchanged except for the construction of a large new control building at each site.

A Probable Electronics Area south of the Housing and Support Area, although constructed in 1962, could only recently be identified as such. The apparent lack of customary control buildings, facility changes noted from time to time, and the general layout would tend to give the impression of a feasibility area for component testing. Of interest is a suspect\* antenna, unusual in appearance, first observed under construction in [ ] and situated just west of the Probable Electronics Area.

During 1966/1967 new facilities were added to the previously rather dormant Housing and Support Area, including

\*See footnote page 3.

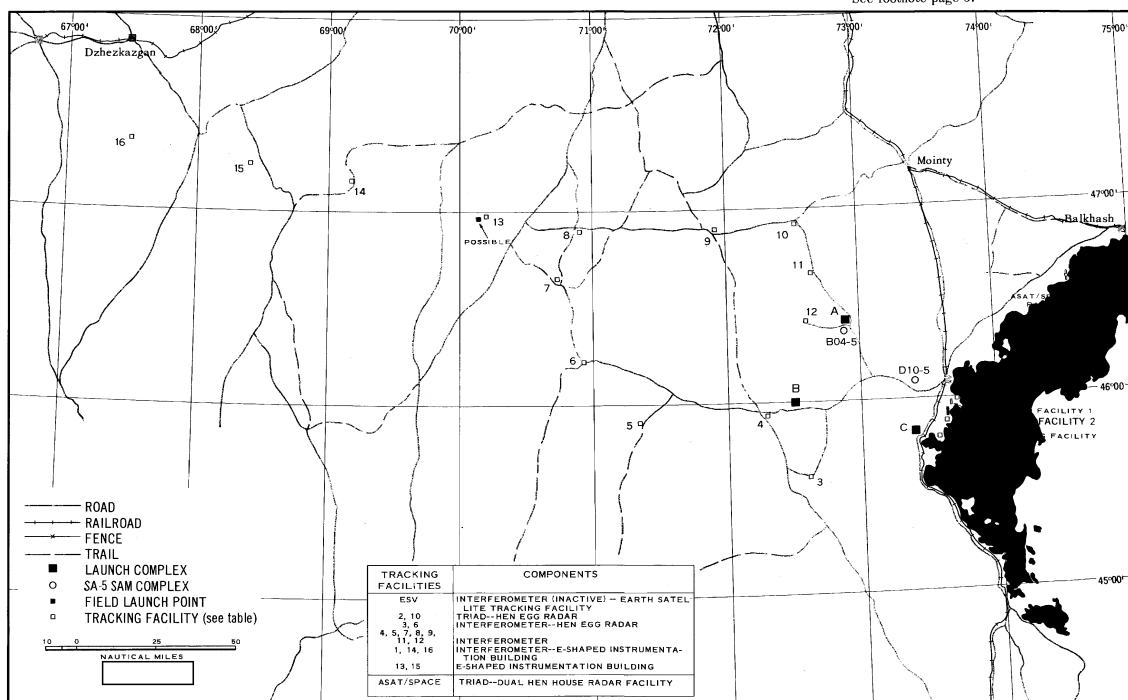


FIGURE 1. SARY-SHAGAN ANTIMISSILE TEST CENTER (SSATC), USSR.

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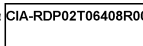
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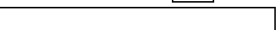

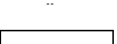

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Table 1. R&D Radar Facility 2, SSATC

	Original Reflector Screen	New Antenna Face
Hen Roost Antenna North		
Length	510'	
Height	60'	
First Observed		
Boresight Azimuth		
Boresight Elevation Angle	--	25° (±5°) <sup>a</sup>
First Indication of dismantling		
Date dismantled		
Presence of clutter screen	Yes	None
Length	590'	
Height		
First observed		
Date dismantled		

<sup>a</sup>New A-frame antenna structure.

<u>Hen Roost Antenna South</u>		
Length	510'	
Height	15'	
First Observed		
Boresight Azimuth		
Boresight Elevation Angle	--	25° (±5°)
First Indication of dismantling		
Date dismantled		
Presence of clutter screen	None	None

construction of a new possible\* rectifier/support building at the transformer substation. A new Support Area was constructed nearby in 1967, presumably associated with R&D Radar Facility 2.

\*The reader is reminded that, as used in NPIC reports, the following definitions are standardized by the Glossary of NPIC Terminology:

SUSPECT (Susp) -- Evidence is insufficient to permit designation of a function with any degree of certainty, but photography or other information provides some indications of what the function may be.

POSSIBLE (Poss) -- Evidence indicates that the designated function is reasonable and more likely than other functions considered.

PROBABLE (Prob) -- Evidence for the designated function is strong and other functions appear quite doubtful.

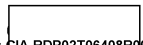
Table 2. Summary of HEN HOUSE- and DOG HOUSE-Type Activity, USSR

Facility	Length of Antenna Structure (feet)	Boresight Azimuth (degrees)	Boresight Elevation Angle (degrees)	Negation	First Observed	Current Status (external) (Sep 67)
SARY-SHAGAN R & D RADAR FACILITY 1						
HEN HOUSE	<div></div>					Complete
BILLBOARD						Complete
SARY-SHAGAN ASAT/SPACE TRACKING RADAR FACILITY						
North	885					Complete
Area A						
South	885					Complete
North	810					Complete externally
Area B						
South	810					Complete externally
North	810 approx					In late construction stage
Area C						
South	810 approx					In late construction stage
North	885					Complete externally
Area D						
South	885					Complete externally
MISHELEVKA ASAT/SPACE TRACKING RADAR FACILITY						
North	890					Complete
Area A						
South	890					Complete
North	800					In mid-construction stage
Area B						
South	800					In mid-construction stage
North	--					In mid-construction stage
Area C						
South	--					In mid-construction stage
North	890					In late construction stage
Area D						
South	890					In late construction stage
OLENEGORSK DUAL HEN HOUSE FACILITY						
North/South	890					Complete
Northeast/Southwest	890					Complete
SKRUNDA DUAL HEN HOUSE FACILITY						
Northeast/Southwest	890					Complete
North/South	890					Complete
NARO-FOMINSK ABM/SPACE TRACKING RADAR FACILITY						
Operational Area A						
North-northwest	400					Essentially complete
South-southeast	400					In very late construction stage
Operational Area B						
North-northwest	760 with 2 prob 370' antennas					Essentially complete externally
South-southeast	760 with 2 prob 370' antennas					In very late construction stage

\*Antenna face.

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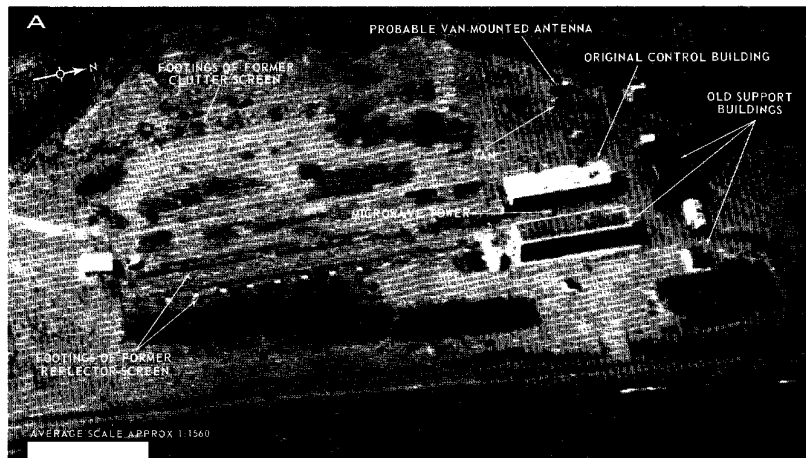
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By [redacted] the reflector and clutter screens at HEN ROOST Antenna North had been dismantled, with only the footings remaining. This was the first large-scale coverage of the site since [redacted]



The site was essentially unchanged since [redacted] except for the removal of antenna components and structural members. No evidence is observed of construction of the new antenna structure.



This is the first large-scale coverage of the new antenna structure under erection and observed for the first time on [redacted]. Note that the northern supports are higher than the southern.

FIGURE 3. ANTENNA NORTH, R&D RADAR FACILITY 2, SSATC.

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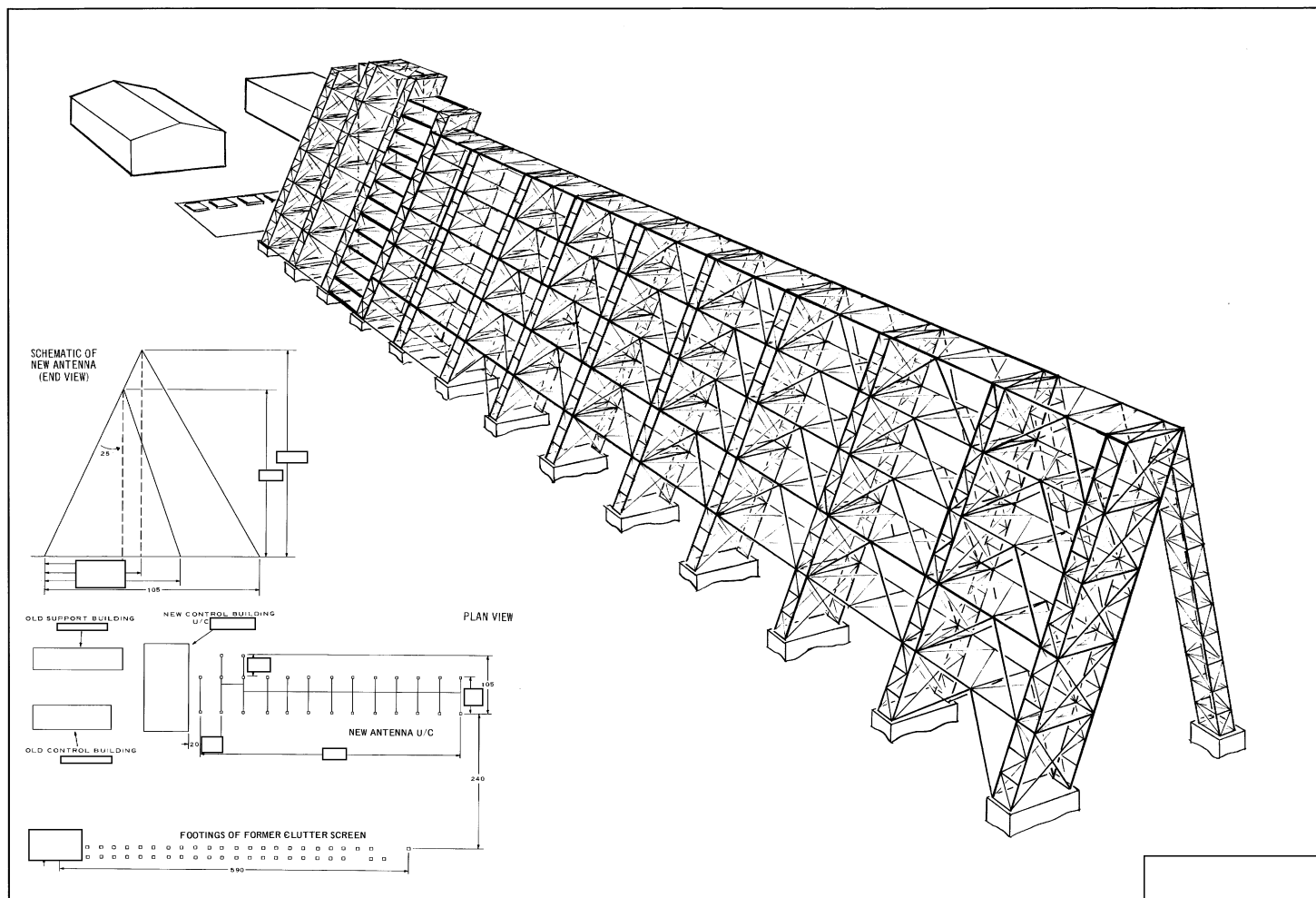


FIGURE 5. PERSPECTIVE VIEW OF ANTENNA NORTH, R&D RADAR FACILITY 2, SSATC.

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## HEN ROOST ANTENNA NORTH

Location -- This antenna (Figures 3, 4, and 5) is situated at 45-56-47N 73-37-55E, approximately [redacted] north of HEN ROOST Antenna South.

Reflector and Clutter Screens -- The reflector screen at HEN ROOST Antenna North when first observed on [redacted] photography of [redacted] appeared complete or virtually complete, measuring 510 feet long by 60 feet high, with a boresight azimuth of [redacted]. As viewed on small-scale photography from that time until its removal prior to [redacted] the reflector screen showed no significant change. The clutter screen, which existed in [redacted] was located [redacted] west of and parallel to the reflector screen and measured 590 feet long and [redacted]. This screen was apparently unchanged through coverage of [redacted]. It appeared to be under dismantlement by [redacted] with materials observed at the site, presumably structural members.

Evidence of activity was apparent at HEN ROOST Antenna North on [redacted] when a dark new ground scar, probably a road or trail, appeared in the snow generally from the north end of the reflector screen, and extended past the clutter screen to the road just beyond. This road/trail was visible through [redacted] when activity was also observed just west of the reflector screen. Photography of [redacted] revealed the first direct evidence of the dismantling of the screen. One long dark pattern and a number of smaller patterns, some of which were probably crates, could be seen between the reflector and clutter screens. Although the photography was of small scale and of only fair interpretability, it appeared that a possible crane was positioned just west of the south portion of the reflector screen and that dismantlement of that portion of the screen was beginning. The dismantling and crating process continued from [redacted] when the reflector screen appeared to be down and most of the crates had been removed. [redacted] (Figure 3A), confirmed the removal of both screens, with only the footings remaining. Two rows of footings with a [redacted] interval between footings were observed at the site of the former reflector screen. Clutter screen footings were arranged in 2 rows [redacted] apart, with footings spaced at [redacted] intervals. Minor activity was observed on [redacted] just south of the

control building. Large-scale coverage of [redacted] (Figure 3B) revealed this area to be essentially unchanged since [redacted] with no evidence of the construction of a screen, as was the case at HEN ROOST Antenna South. Although many crates were removed during that period, some remained at the site. On [redacted] apparent construction activity was noted at the site of the former reflector screen and just west of it. The following mission -- [redacted] -- revealed an A-frame type of construction to be in progress, with the structural supports under construction from south to north, and a probable crane alongside the north portion. By [redacted] one of the 2 small buildings at the south end of the former reflector screen had been removed. Construction continued, with an A-frame structure observed on [redacted] (Figure 3C). Although considerable progress was made between [redacted] the latest and best large-scale coverage of the site (Figures 4 and 5) -- no evidence was yet revealed of an antenna face. The A-frame antenna structure is approximately [redacted] long and has a boresight azimuth of approximately [redacted] degrees. It is supported from the east by 13 main structural supports -- the 9 to the south having a height of [redacted] the second and third from the north a height of [redacted]. The northernmost and fourth from the north appear to fall somewhere between these 2 heights. All 12 sections comprising the structure appear to date to consist of an intricate pattern of heavily trussed horizontal and vertical members in varying degrees of preliminary construction except for the third section from the north where a more advanced stage is observed. Thirteen evenly spaced horizontal members or tiers can be seen here which appear broader, lighter-toned, and have apparently been emplaced on the initial framework of the structure. A tall structure occupies the northernmost section; whether an integral part of the antenna structure or a covered construction elevator cannot be determined. Just west of the antenna structure is a probable assembly jig, presumably used for assembly of the antenna panels. The boresight elevation angle of the A-frame structure is approximately 25 degrees. Spacing between footings is [redacted]. Certain footings of the former reflector screen can be seen in disuse, adjacent to the new supports. Just west of the footings for the former clutter screen numerous crates and possible truss members have appeared since [redacted]. Additional crates have also appeared

west of the A-frame antenna structure. A crane and 2 power shovels are observed in the area. Since [redacted] new trenching is noted just inside and paralleling the south fence line and the second small structure has been removed at the south end of the A-frame antenna structure.

Control Buildings -- The control building which existed in [redacted] and appears unchanged externally as of [redacted]. The large support building [redacted] constructed in 1963 east of and paralleling the control building, also appears unchanged externally in [redacted]. The microwave tower which was observed in [redacted] just east of the control building remained until sometime between [redacted] when it was removed. Footings for a new control building were first observed on photography of [redacted] between the old control building and the antenna structure under construction. At that time footings occupied an area approximately [redacted].

Support Facilities -- Support facilities generally north of the control building consist of 6 small structures and in the northwest corner 1 probable van-mounted antenna and a second cable-connected van nearby. Little change is apparent here since [redacted] except for the construction of 2 structures from [redacted]. Between [redacted] two very small buildings were added along the east site boundary.

## HEN ROOST ANTENNA SOUTH

Location -- This antenna (Figures 6, 7, and 8) is situated at 45-56-10N 73-37-45E, approximately [redacted] south of HEN ROOST Antenna North. HEN ROOST Antenna South is offset to the west 1,785 feet.

Table 3. New Antenna South, R&D Radar Facility 2, SSATC  
Geographic Coordinates along [redacted] Azimuth

Distance from Site (mm)	Latitude	Longitude
100	45-58-09N	71-14-21E
200	45-57-09N	68-50-54E
300	45-53-08N	66-27-41E
400	45-46-09N	64-04-56E
500	45-36-12N	61-42-54E
600	45-23-20N	59-21-49E
700	45-07-35N	57-01-55E
800	44-49-00N	54-43-24E
900	44-27-39N	52-26-29E
1000	44-03-35N	50-11-19E
1100	43-36-54N	47-58-04E
1200	43-07-40N	45-46-51E

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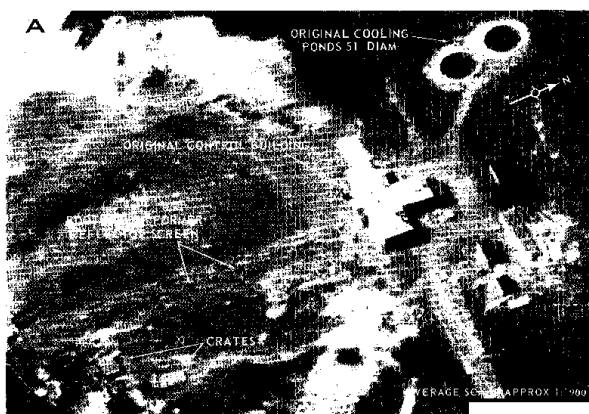
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This coverage of HEN ROOST Antenna South, first complete large-scale coverage of the site, revealed that the original screen had been dismantled, with only footings remaining.



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FIGURE 6. ANTENNA SOUTH, R&D RADAR FACILITY 2, SSATC.

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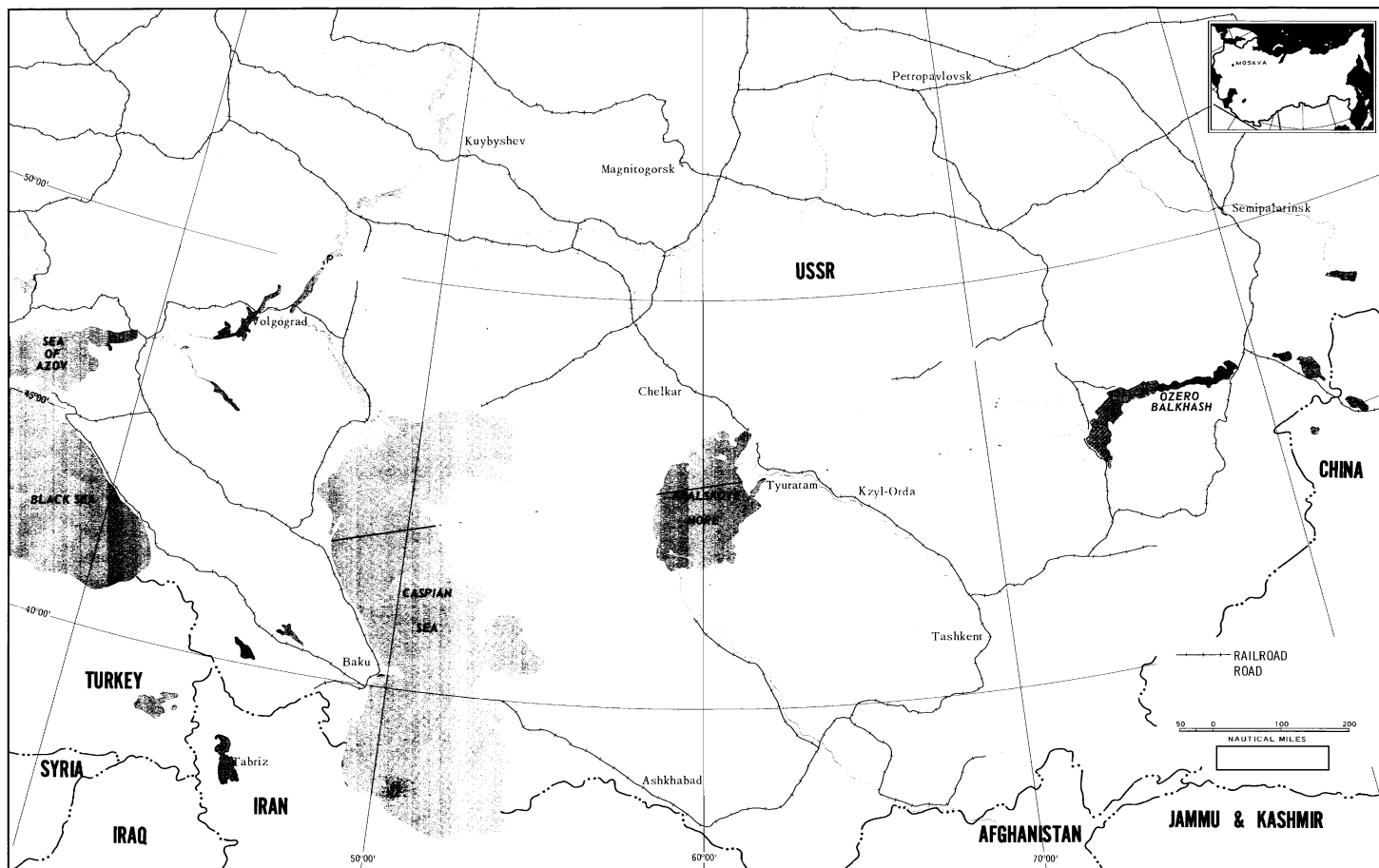


FIGURE 9. PROPAGATION LINE FOR ANTENNA SOUTH, R&D RADAR FACILITY 2, SSATC.

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**Reflector Screen** -- A small portion of the reflector screen at HEN ROOST Antenna South was observed on 90 percent cloud-covered photography of [ ] On first complete but small-scale coverage of [ ] it was observed to be 510 feet long, with a boresight azimuth of [ ] This original screen, which has been covered in its entirety only by small-scale [ ] photography of fair to poor interpretability, differed from HEN ROOST Antenna North in having a height of approximately 15 feet in contrast with the 60-foot height of HEN ROOST Antenna North. No significant change was discernible in the reflector screen on small-scale coverage available from [ ] until dismantlement. The screen, which was still present, at least in part, on [ ] appeared to have been dismantled by [ ]. Photography of [ ] first large-scale coverage of the site (Figure 6A), revealed the reflector screen to have been completely dismantled, with only the footings remaining. Two rows of footings were visible: 12 in the west row, spaced [ ] and an undetermined number in the east row. Numerous crates/construction materials were just east of the site of the former screen.

On photography of [ ] two small, dark, unidentified patterns had appeared just west of the construction site. By [ ] (Figure 6B), an A-frame type of construction was observed being erected on the site of the former reflector screen. Since [ ] additional crates have appeared on both sides of the construction site and a crane along the west-central side.

Continuing activity was noted at the site on [ ] (Figure 6C) with construction progress on the A-frame structure and additional crates observed. The best and most current large-scale coverage of the site -- [ ] (Figures 7 and 8) -- revealed relatively extensive progress since [ ] Three cranes, numerous crates, and construction materials were present -- considerably more than in [ ] An A-frame-type of construction is noted, with 10 main structural supports of equal length extending to the east and spaced [ ] apart. The antenna face is a plane surface with a length of [ ] feet, and a height of [ ] Paneling has been emplaced throughout the antenna face except for a 40-foot-wide section at the northwest corner. Two sections (totaling [ ] feet) of the probable missing panel, with adjacent crane,

appear to be under assembly just west of the screen. The forward edge of the antenna face appears to be about [ ] from the ground. The antenna face has a boresight elevation angle of 25 degrees and has a boresight azimuth of [ ] degrees (Figure 9 and Table 3). Since [ ] additional grading and clearing have taken place to the east and west of the control building and west of the fenceline -- providing a cleared area of approximately [ ] feet west of the screen. A secondary road to the site from the coastal access road has been widened and improved since [ ]

**Clutter Screen** -- None.

**Control Buildings** -- The T-shaped control building adjacent to the north end of the former reflector screen and present on first complete coverage of [ ] does not appear to have changed externally from that time until coverage of [ ] The major component perpendicular to the former screen measures [ ] the northern wing [ ] footings were observed for the new control building between the old control building and the new screen. To date a 20-foot separation exists between these footings and the screen. Considerable construction progress was made from [ ] with indications that the new building would measure approximately 180 by 80 feet.

**Support Facilities in the Operational Area** -- Support facilities north and south of the reflector screen are relatively few and remain essentially as seen on the first interpretable small-scale coverage of [ ] Those to the north include 2 cooling ponds (each [ ] in diameter), a semiburied structure, a small, 6-sided, probable environmental shelter [ ] and 3 small buildings. Two small structures close to the south end of the screen (1 present as early as [ ] remain on latest coverage of [ ] Two small structures east of the south end of the screen on [ ] were no longer discernible on [ ]

**Immediate Support Area** -- This area, astride the main coastal road 1,200 feet east of the HEN ROOST Antenna South reflector screen, was present at least as early as [ ] It consisted of 7 buildings of various sizes, a water standpipe, and a pumphouse. By [ ] three small buildings had been dismantled and the remaining 4 by [ ] The water standpipe, the pumphouse, and several very small adjacent structures are all that remain.

## PROBABLE ELECTRONICS AREA

This area, just south of the Housing and Support Area, could first be identified as probably electronic in nature on first large-scale coverage of [ ] when 2 suspect antennas and 1 probable antenna were identified. None of these facilities was present on [ ] All 3 appeared during 1962. These facilities (Figure 10) are interconnected by road/trail with each other and with the Main Housing and Support Area. On the latest referenced large-scale coverage [ ], a third suspect antenna (Figures 10 and 11) was observed to be well under construction to the west of the 3 previously identified.

The northernmost of the 3 facilities consists of an approximately [ ] probable antenna which appears to be positioned on a circular track-like structure [ ] in diameter, which in turn is situated on a long, narrow, rectangular apron. Several small structures are observed on photography of [ ] close to the southeast corner of the apron, including 1 possible environmental shelter [ ] in diameter) and 1 possible tank [ ] in diameter). The probable antenna appeared to be present as early as [ ] a 220-foot-high tower had appeared 280 feet to the east. [ ] several small structures/objects could be seen close to the south end of the probable antenna. Vehicular movement was noted at the site between [ ] This probable antenna has been seen most frequently oriented generally on a north/south axis with a boresight azimuth of [ ]. However, on at least 9 occasions it was oriented north-northeast/south-southwest to northeast/southwest and on 1 occasion toward the north-northwest/south-southeast. On all available coverage during 1966 and 1967 it has been roughly on a north/south axis. Recent activity at the tower consists of the appearance on [ ] of a prepared linear strip (of different lengths on the 2 missions) near the tower, and of the construction of a small [ ] structure near the tower.

The central suspect antenna is a generally semicircular structure approximately 130 feet across its base, with a height of 5 feet [ ] and a boresight azimuth of [ ] degrees. No antenna can be identified on the large-scale coverages available from [ ]. The possibility of an antenna positioned here previously

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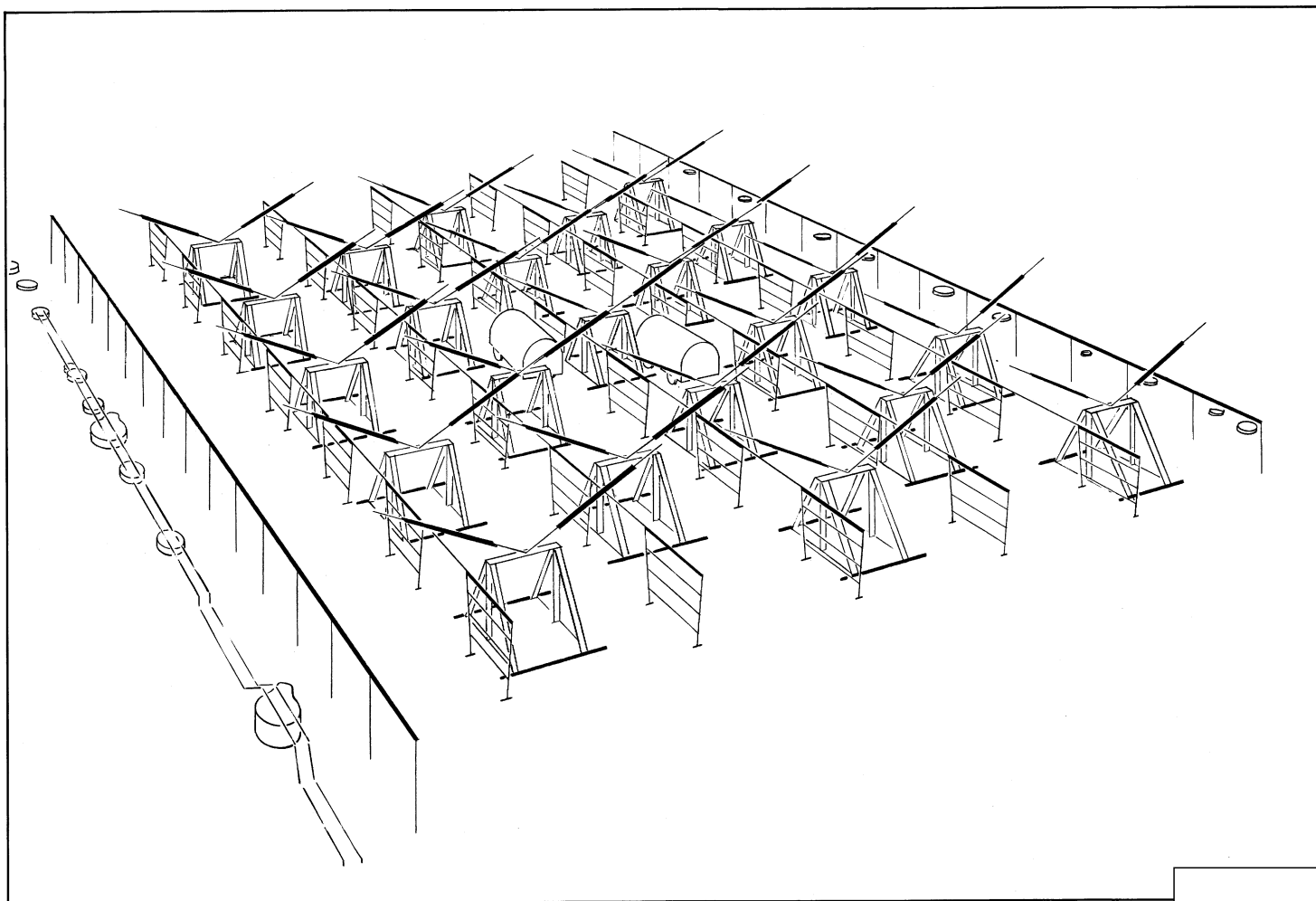


FIGURE 11. PERSPECTIVE CONCEPT OF SUSPECT ANTENNA ARRAY UNDER CONSTRUCTION, R&D RADAR FACILITY 2, SSATC.

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but not identifiable on small-scale photography cannot be ruled out. This suspect antenna could be first identified on [redacted] although activity was observed at the site on photography of [redacted]. Large-scale coverage of [redacted] and subsequent photography revealed that a narrow structure paralleling the outer edge of the main structure was being removed. Materials adjacent to the south side vary in quantity as seen on current mission photography. From [redacted] one large section [redacted] of the structure at the east-central side presented a dark appearance -- possibly covered over -- and remained thus through [redacted]. From [redacted] the covering material of another portion [redacted] along the northwest corner had been removed. Whether the facility is being dismantled or rehabilitated cannot be determined. In some respects this structure resembles the light-toned, parallel, triangular deck abutting the BILLBOARD at R&D Radar Facility 1.

The southern suspect antenna consists of 2 parallel structures; the principal section to the east, 345 feet long (overall), [redacted] and 5 feet high [redacted], and the secondary, one to the west, [redacted] with a separation distance [redacted]. Boresight azimuth is approximately [redacted]. A shorter structure (105 feet long by [redacted] wide by approximately [redacted]) is situated just to the east. This suspect antenna could be seen on small-scale photography of [redacted] but did not appear to be present on [redacted]. Large-scale photography of [redacted] and subsequent coverage revealed the dismantling of that structure closest to the western fence line, and the construction of another long structure closer to the primary one. In [redacted] these 2 structures appeared as separate and apparently unconnected. Nons stereo photography of [redacted] gave the impression of a covering extending from one to the other.

Activity was observed in the southeast corner of the Probable Electronics Area in [redacted] when numerous crates/construction materials could be seen. Crates were observed here in the same approximate number until [redacted] when some movement was noticeable. [redacted] only a small number of crates re-

mained. An increase was noticeable between [redacted]. An apron with an unidentified piece of equipment appeared in this corner by [redacted] and remained through [redacted].

Just west of the Probable Electronics Area is a suspect antenna array under construction (Figures 10 and 11). Grading was first observed at the site in [redacted]. This suspect antenna consists of crossed over and under arrays. The lower array, approximately [redacted] above the ground, appears to consist of 5 horizontal linear elements, each approximately 180 feet long and each supported by 7 equally spaced support towers. Although the lower array would appear to serve as a reflector, the possibility of their being active elements cannot be ruled out. The higher array is composed of what appears to be 23 shallow V-shaped elements (approximately [redacted] from tip to tip) mounted in upright positions on individual supports which are approximately [redacted] from the ground. These elements are arranged perpendicularly to the elements in the lower array. One element is currently under assembly. The 2 end portions of each leg of the V-shaped element appear to be thinner than the central portion, which is of bulky configuration. The tips of each leg appear to be approximately [redacted] feet from the ground. The elements of the high array occupy an area approximately 180 feet in length, thus resulting in an area approximately 180 feet square occupied by the low and high array. A narrow, light-toned, horizontal structure, elevated about [redacted] from the ground, generally parallels the linear elements comprising the lower array and is situated on each side of the suspect antenna. Both structures are [redacted] long but appear to be slightly offset and not truly parallel to each other. The approximate separation distance of the 2 western termini is [redacted], of the 2 eastern termini [redacted]. There are indications of a possible cable arrangement parallel to and about [redacted] outside of each structure. Two probable vans [redacted] are at the center of the suspect array and a truck-mounted crane and construction materials are present along its perimeter. Just to the southeast of the suspect antenna is a possible element assembly/test area containing 1 element assembled.

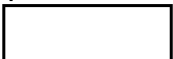
HOUSING AND SUPPORT AREA  
FOR R&D RADAR FACILITY 2

This facility is approximately 1,500 feet south-southeast of HEN ROOST Antenna South and currently consists of 32 barracks/administration and storage buildings, a power transformer substation, an athletic field, and a motor pool (Figure 12). Since report of [redacted] until [redacted] only minor construction activity was evident -- addition to 1 building and construction of 1 small building in the northern part of the area. Between [redacted] and 3 small structures were constructed in the southwest sector of the facility. The period from [redacted] revealed somewhat more extensive construction -- concentrated largely in the south and consisting of building construction and new trenching. Building construction included: a possible rectifier building [redacted] along the south side of the transformer substation, 2 administrative/technical buildings along the southern facility boundary, 2 buildings along the western boundary under construction [redacted] and another of undetermined size), and 4 small sheds.

The 35-kilovolt (kv) transformer substation situated along the north boundary of the Housing and Support Area, previously reported as probable, can now be confirmed. It consists of a relatively small secured area and a control/low-voltage switching building. Within the secured area are two 3-phase transformers and a small 35-kv switching yard having 3 bays and 1 bus. The transformers have an estimated capacity up to 1.8 megavolts-amperes (mva) each.

One 3-phase, single-circuit, 35-kv powerline entering the substation parallels the shoreline and originates at the Main Substation west of the Main Housing Complex for SSATC. This powerline is strung on wooden supports. A second 3-phase, single-circuit, 35-kv powerline entering the substation is tied into the substation at Tracking Facility 2. It also has wooden supports. Wooden supports for a third single-circuit powerline coming from the main SSATC substation are visible. This powerline avoids the shoreline electronics installations. However, there is no photographic evidence of the installation of insulator garlands nor of the

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stringing of conductors. It must be considered that this powerline is not yet in service.

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A new possible rectifier/support building (feet) is in final process of completion south of the control/low-voltage building. Possible overhead cables may connect the 2 buildings. Photography of [redacted] reveals scraping activity of an undetermined purpose within the secured area of the substation.

#### NEW SUPPORT AREA

A new support area (Figure 13), under construction 3,000 feet northeast of the HEN ROOST Antenna North and presumably a component of R&D Radar Facility 2, is composed of 23 buildings. The majority of these buildings

were complete or nearly complete externally on [redacted]

[redacted] The facility is secured and is served by a water pumphouse and waterline under construction.

No evidence of the site could be seen in the snow on [redacted]

[redacted] First indication of construction was noted with considerable progress between [redacted] and [redacted]

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#### REFERENCES



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REFERENCES (Continued)

PHOTOGRAPHY



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DOCUMENT

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REQUIREMENT

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